

A METHOD FOR SELECTING FRAME ENCODING PARAMETERS IN A  
FRAME-BASED COMMUNICATIONS NETWORK

ABSTRACT OF THE DISCLOSURE

A method for selecting frame encoding parameters to improve transmission performance for a transmitting frame being transmitted from a transmitting station to a receiving station over a transmission medium of a frame-based communications network is provided, the transmitting frame having a header segment and a payload segment, the header segment being transmitted using a fixed set of encoding parameters such that the header segment can be received and decoded by all stations on the network, the payload segment being transmitted using a variable set of payload encoding parameters, the transmitting station sending the transmitting frame using one set of the variable set of payload encoding parameters at a time. The receiving station receives and decodes the header and payload segments of each transmitting frame. The decoding includes computing frame statistics. A plurality of sets from the variable set of payload encoding parameters are selected to form a possible set of payload encoding parameters. For each set of payload encoding parameters in the possible set of payload encoding parameters an estimate of network performance characteristics expected if the transmitting station were to transmit the transmitting frame using that set of payload encoding parameters is generated based upon the frame statistics. A set of payload encoding parameters having optimized network performance characteristics is selected based upon the estimates of expected network performance for each set of payload encoding parameters in the possible set of payload encoding parameters.

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